

WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:

a developing device comprising a developing receptacle configured to accommodate a developer including a toner and a carrier, and a detector configured to output a signal corresponding to a toner density of the developer within said developing receptacle;

a replenishing member configured to perform a replenishing operation that replenishes the toner to the developing receptacle in accordance with an output value from the detector;

a first storage unit having a storage region configured to store information relating to characteristics of the developer; and

a controller configured to control the replenishing operation by said replenishing member based on the output value from the detector and the information relating to characteristics of the developer.

2. An image forming apparatus according to Claim 1, wherein said controller controls the replenishing operation based on the output value from the detector and a predetermined reference value and corrects the reference value using correction information based on the information relating to characteristics of the developer.

3. An image forming apparatus according to Claim 2, wherein the correction information is a correction table for correlating an environment or an amount of use of said developing device with an amount of correction for

the reference value.

4. An image forming apparatus according to Claim 2, further comprising an environment detection sensor for detecting an environment within said image forming apparatus, wherein said controller corrects the reference value using information relating to the environment from said environment detection sensor, information relating to an amount of use of said developing device, and the information relating to characteristics of the developer.

5. An image forming apparatus according to Claim 4, wherein said first storage unit further includes a storage region configured to store the information relating to the amount of use of said developing device.

6. An image forming apparatus according to Claim 1, further comprising a second storage unit having a storage region storing correction information for correcting the reference value,

wherein said controller selects the correction information stored in said second storage unit based on the information relating to characteristics of the developer stored in said first storage unit, and corrects the reference value based on the selected correction information.

7. An image forming apparatus according to Claim 1, wherein said developing device is detachably mountable in a main body of said image forming apparatus, and wherein said first storage unit is provided in said developing device.

8. An image forming apparatus according to Claim 1, wherein a cartridge comprising at least said developing device and an image bearing member is detachably mountable in said image forming apparatus, and wherein said first storage unit is provided in said cartridge.

9. An image forming apparatus according to Claim 1, wherein said first storage unit further includes a storage region storing an offset value for the reference value, and

wherein said controller controls the replenishing operation based on the offset value and the information relating to characteristics of the developer.

10. An image forming apparatus according to Claim 1, wherein said detector is a permeability sensor configured to output a signal corresponding to permeability of the developer.

11. A developing device detachably mountable in an image forming apparatus, comprising:

a developing receptacle configured to accommodate a developer including a toner and a carrier;

a detector configured to output a signal corresponding to a toner density of the developer within said developing receptacle; and

a storage medium configured to store information relating to said developing device,

wherein said storage medium includes a first storage region

configured to store information relating to characteristics of the developer.

12. A developing device according to Claim 11, wherein said storage medium further includes a second storage region configured to store information relating to an amount of use of said developing device.

13. A developing device according to Claim 11, wherein the information relating to the characteristics of the developer is information for selecting correction information for correcting the reference value of said detector stored in storage means provided in said image forming apparatus.

14. A developing device according to Claim 11, wherein said storage medium further includes a third storage region for storing an offset value for a reference value of said detector.

15. A developing device according to Claim 11, wherein said storage medium further includes a communication portion for communicating with said image forming apparatus.

16. A storage medium to be mounted in a developing device detachably mountable in an image forming apparatus, the developing device comprising a developing receptacle for accommodating a developer including a toner and a carrier, and a detector for outputting a signal corresponding to a toner density of the developer within the developing receptacle, said storage medium comprising:

a first storage region for storing information relating to

characteristics of the developer used for supplying the developing receptacle with the toner.

17. A storage medium according to Claim 16, further comprising a second storage region for storing information relating to an amount of use of the developing device.

18. A storage medium according to Claim 16, wherein the information relating to the characteristics of the developer is information for selecting correction information for correcting a reference value of the detector stored in storage means provided in the image forming apparatus.

19. A storage medium according to Claim 16, further comprising a third storage region for storing an offset value for a reference value of the detector.

20. A storage medium according to Claim 16, further comprising a communication portion for communicating with the image forming apparatus.